

IN THE CLAIMS:

1. (Currently amended) A phase voltage circuit, comprising:

a line voltage stage, coupled to at least three input voltage lines, configured to provide at least two corresponding line voltages, wherein:

a first corresponding line voltage of said at least two corresponding line voltages is a function of a comparison between a first input voltage line and a second input voltage line of said at least three input voltage lines, and

a second corresponding line voltage of said at least two corresponding line voltage is a function of a comparison between said first input voltage line and a third input voltage line of said at least three input voltage lines; and

a difference voltage stage, coupled to said line voltage stage, configured to provide at least one phase voltage, wherein each at least one phase voltage is derived from said at least two corresponding line voltages.
2. (Original) The circuit as recited in Claim 1 wherein said at least three input voltage lines lack a neutral line.
3. (Original) The circuit as recited in Claim 1 wherein said line voltage stage comprises two differential amplifiers.

4. (Original) The circuit as recited in Claim 3 wherein a first of said two differential amplifiers provides a first line voltage by subtracting a second input voltage from a first input voltage and a second of said two differential amplifiers provides a second line voltage by subtracting said first input voltage from a third input voltage.

5. (Original) The circuit as recited in claim 1 wherein said difference voltage stage comprises one differential amplifier

6. (Original) The circuit as recited in Claim 1, wherein said differential amplifier provides a phase voltage by:

subtracting a second line voltage from a first line voltage to yield a difference; and
scaling the difference by a scaling factor.

7. (Original) The circuit as recited in Claim 1 wherein said line voltage stage and said difference voltage stage employ a common reference point.

8. (Currently amended) A method of providing at least one phase voltage, comprising:
initially providing at least two corresponding line voltages from at least three input voltage lines; wherein:

a first corresponding line voltage of said at least two corresponding line voltages is a function of a comparison between a first input voltage line and a second input voltage line of said at least three input voltage lines; and

a second corresponding line voltage of the at least two corresponding line voltage is a function of a comparison between said first input voltage line and a third input voltage line of said at least three input voltage lines; and

subsequently providing said at least one phase voltage from said at least two corresponding line voltages, wherein said providing of said at least one phase voltage is carried out with at least one differential amplifier.

9. (Original) The method as recited in Claim 8 wherein said at least three input voltage lines lack a neutral line.

10. (Original) The method as recited in Claim 8 wherein said providing of said at least two corresponding line voltages is carried out with at least two differential amplifiers.

11. (Original) The method as recited in Claim 10 wherein said providing of said at least two corresponding line voltages comprises:

employing a first of said two differential amplifiers to provide a first line voltage by subtracting a second input voltage from a first input voltage; and

employing a second of said two differential amplifiers to provide a second line voltage by subtracting said first input voltage from a third input voltage.

12. (Original) The method as recited in Claim 8 wherein said providing of said at least one phase voltage is carried out with at least one differential amplifier.

13. (Original) The method as recited in Claim 8, wherein said differential amplifier provides a phase voltage by:

subtracting a second line voltage from a first line voltage to yield a difference; and
scaling said difference by a scaling factor.

14. (Original) The method as recited in Claim 8 wherein said providing of said at least two corresponding line voltages and said providing of said at least one phase voltage are carried out employing a common reference point.

15. (Currently amended) A phase voltage system for measuring three-phase voltages, comprising:

three input voltage lines; and

a phase voltage circuit, including:

a line voltage stage, coupled to said three input voltage lines, that provides three corresponding line voltages, wherein:

a first corresponding line voltage of said at least two corresponding line voltages is a function of a comparison between a first input voltage line and a second input voltage line of said at least three input voltage lines; and

a second corresponding line voltage of the said least two corresponding line voltage is a function of a comparison between said first input voltage line and a third input voltage line of said at least three input voltage lines; and

a difference voltage stage, coupled to said line voltage stage, that provides three corresponding phase voltages from said three corresponding line voltages, wherein said difference voltage stage comprises at least one differential amplifier.

16. (Original) The system as recited in Claim 15 wherein said at least three input voltage lines lack a neutral line.

17. (Original) The system as recited in Claim 15 wherein said line voltage stage has three differential amplifiers.

18. (Original) The system as recited in Claim 17 wherein a first of said three differential amplifiers provides a first line voltage by subtracting a second input voltage from a first input voltage, a second of said three differential amplifiers provides a second line voltage by subtracting a third input voltage from said second input voltage and a third of said three differential amplifiers provides a third line voltage by subtracting said first input voltage from said third input voltage.

19. (Original) The system as recited in Claim 15 wherein said difference voltage stage has three differential amplifiers.

20. (Original) The system as recited in Claim 19 wherein,
a first of said three differential amplifiers provides a first phase voltage by
subtracting a third line voltage from a first line voltage to yield a first difference, and
scaling said first difference by a scaling factor;
wherein a second of said three differential amplifiers provides a second phase voltage by
subtracting said first line voltage from a second line voltage to yield a second difference, and
scaling said second difference by said scaling factor; and
wherein a third of said three differential amplifiers provides a third phase voltage by
subtracting said second line voltage from said third line voltage to yield a third difference, and
scaling said third difference by said scaling factor.

21. (Original) The system as recited in Claim 15 wherein said line voltage stage and said difference voltage stage employ a common ground.